## REMARKS/ARGUMENTS

Reconsideration and withdrawal of the Examiner's rejection of the above-identified application is respectfully requested in view of the foregoing amendments and following remarks. Claims 1 and 81-94 are in the application. Claims 2-80 have been canceled. No new matter has been added.

The Examiner objected to claims 73 and 77. These claims have been canceled.

The Examiner rejected claims 1-11, 14-20, 29, 32, 33, 35, 36-47, 50-56, 60, 65, 68, 69 and 71-73 under 35 USC 103 as being unpatentable over Kadar-Kallen et al. in view of Pan. Claims 12, 13, 21-23, 48, 49 and 57-59 are rejected under 35 USC 103 as being unpatentable over Kadar-Kallen in view of Pan and further in view of Steinberg et al. Claims 25-28, 31, 34, 61-64, 67 and 70 are rejected over Kadar-Kallen et al. in view of Pan and further in view of Ota et al. Claims 30 and 66 are rejected over Kadar-Kallen et al in view of Pan and further in view of Duck et al. Claims 74, 77 and 78 are rejected over Kadar-Kallen et al. in view of Pan and further in view of Major, Jr. Claims 75, 77 and 79 are rejected over Kadar-Kallen et al. in view of Pan and further in view of Mukasa. Claims 76, 77 and 80 are rejected over Kadar-Kallen et al. in view of Pan and further in view of Dultz et al.

Applicant has amended claim 1 and has canceled claims 2-80. New claims 81-85 correspond to original claims 9, 12, 10, 17 and 21, respectively. New claims 89, 91

and 94 correspond to original claims 26, 27 and 35, respectively. New claims 86, 87, 88, 90, 92 and 93 are new. No new matter has been added.

Claims 1 and 81-84 relate to a configuration in which the microlens surfaces face the optical chip, as shown in FIGS. 1A to 6. Claims 85-88 relate to a configuration in which microlens surfaces face the fiber array blocks, as shown in FIG. 7A to FIG. 9. Claims 89-94 relate to another configuration in which the microlens surfaces face the fiber array blocks, as in FIG. 10. Support for the additional material in the claims can be found in the specification, for example, on page 2, line 29 ("formed on the substrate"), page 13, line 25 ("about 4 to 12 degrees"), page 5, line 32 ("about 125 to 2500 microns"); page 16, line 28 (about 0.1 to 5 degrees"); page 22, lines 1-2 ("about 0.1 to 10 degrees").

Referring to the rejections, the microlens array substrate of the present invention includes a plurality of microlenses formed on the substrate and integrated along a microlens surface (=PMLA). In comparison, the chip 5 of Kadar-Kallen has holographic optical elements 6 and is entirely different from the microlens array substrate of the present invention. Therefore, it would not be obvious to replace a chip 5 of Kadar-Kallen with the microlens array substrate of the present invention. Moreover, Pan does not disclose a lens array, so even if an optical chip 13 of Pan were provided into the gap of Kadar-Kallen, such a combination would be entirely different from the present invention.

In addition, the fiber endface 4 of Kadar-Kallen is angled at 9 degrees and the lens axes of holographic optical elements 6 are angled at 9 degrees in the case of a 250 micron pitch. According to Kadar-Kallen, high efficiency of optical coupling cannot be accomplished, because lens axes of holographic optical elements 6 are angled at 9 degrees. On the contrary, in claim 1 of the present invention, although the block surface of the fiber optical block array and the substrate surface of the microlens array substrate are angled at 4 to 12 degrees in 125 to 2500 micron pitch of microlenses, but the lens axes of the microlenses are angled at 0.1 to 5 degrees. According to claim 1 of the invention, high efficiency of the optical coupling can be accomplished. Furthermore, none of the cited references disclose a configuration in which the microlens array substrates face the fiber array blocks, as claimed in claims 85-94.

Accordingly, Applicant submits that claims 1 and 81-94 are patentable over the cited references, taken either singly or in

combination. Early allowance of the amended claims is respectfully requested.

Respectfully submitted,
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I hereby certify that this correspondence is being sent by facsimile-transmission to the Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 27, 2004.

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